

ABSTRACT

A copper-based alloy excellent in dezincing resistance comprises, in percentage by weight, Cu : 57 – 69%, Sn : 0.3 – 3%, Si : 0.02 – 1.5%, Bi : 0.5 – 3%, and Pb : not more than 0.2%, where the ratio of Si/Sn expressed in weight percentage is in the range of 0.05 – 1 and apparent zinc content as defined by the following formula is in the range of more than 39 – 50 wt.%, and the balance of unavoidable impurities: Apparent Zn content = $[(\text{Zn}\% + 2.0 \times \text{Sn}\% + 10.0 \times \text{Si}\%) / (\text{Cu}\% + \text{Zn}\% + 2.0 \times \text{Sn}\% + 10.0 \times \text{Si}\%)] \times 100$. Despite the fact that contains no added environment-unfriendly Pb, the alloy exhibits enhanced cuttability, together with excellent forgeability, dezincing resistance and hot forgeability.